DESCRIPTIONS OF NEW ICHNEUMON-FLIES, WITH TAXONOMIC NOTES

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This paper consists of the descriptions of 1 new genus, 9 new species, and 1 new variety of Ichneumonidae and notes on 10 other species, one of which is assigned a new name.

Most of the species discussed have been reared from insects of economic importance. All but two are North American, these being European species that have been reared at the Gipsy Moth Parasite Laboratory, Melrose Highlands, Mass., during a study of the parasites of the introduced birch leaf-mining sawfly, *Phyllotoma nemorata* (Fallen).

Genus HOPLISMENUS Gravenhorst

HOPLISMENUS RUTILUS (Cresson), new combination

Ichneumon rutilus Cresson, Proc. Ent. Soc. Philadelphia, vol. 3, p. 169, 1864; Trans. Amer. Ent. Soc., vol. 6, p. 185, 1877, female.

Genus AMBLYTELES Wesmael

AMBLYTELES PROPITIUS (Cresson), new combination

Ichneumon propitius Cresson, Trans. Amer. Ent. Soc., vol. 4, p. 156, 1872; vol. 6, p. 182, 1877, male.

Two males and three females reared at the Gipsy Moth Parasite Laboratory in June, 1931, from pupae of *Cinclidia harrisii* Scudder, collected at Lynnfield, Mass., and Deering, N. H., together with the type male and five other females from localities ranging from Hampton, N. H., to Champaign, Ill., are before me. One of the latter was reared by Dr. A. S. Packard from *Phyciodes tharos* (Drury).

The apices of the second and third tergites in the type are not blackish as described by Cresson but a little darker reddish than the surface generally. The scutellum and first tergite are narrow, the former subdistinctly margined laterally well beyond the base and the latter barely half as broad at apex as long. The areola is distinctly separated from the basal median area, not extending to base as described by Cresson. The areolet is not triangular, as described, but pentagonal, with the second recurrent well beyond the middle.

Except that the Massachusetts males are somewhat stouter and have the scutellum somewhat broader and margined at base and the

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first tergite a little more than half as broad at apex as long, these specimens are much like the type.

Because of its rather prominent propodeal angles the female might be run to *rutilus* Cresson in that author's key to the North American species of *Ichneumon;* but, as indicated above, *rutilus* is a *Hoplismenus* differing from the present species by the characters distinguishing *Hoplismenus* from *Amblyteles.* Run beyond this point in the key, this species is difficult to place, because of the marked variation in the sculpture of the postpetiole, which varies from nearly smooth to rather coarsely rugulose punctate. Specimens with nearly smooth postpetiole run best to *rubicundus* Cresson, from which they are at once distinguishable by many characters, including the longer and more slender antennae, much longer malar space, flat and nearly unseparated clypeus, and the entire lack of the scopa on hind coxa. From *soror* Cresson, to which those specimens with punctate postpetiole run, it differs by all the characters listed above except the last, as well as in many other details.

Particularly characteristic of this species is the clypeus. In profile this is flat, continuous with the face, with only a faint indication medially of a separation between the two; apically the clypeus is very broadly and straightly truncate, with the lateral angles very prominent and extending over the bases of the mandibles.

AMBLYTELES HETEROCAMPAE, new species

In Cresson's key to *Ichneumon*, females, Section IV, this species runs to (*signatipes* Cresson) = *duplicatus* (Say), from which it is at once distinguishable by its black femora, longitudinally striate postpetiole, rather deep transverse gastrocoeli, and lack of coxal scopa. In the structural characters mentioned above it is very much like *funestus* (Cresson), from which its red mesoscutum and yellow-annulated tibiae distinguish it.

Female.—Length 13 mm. Head distinctly narrower than thorax, temples convexly receding, their length (anteroposteriorly) hardly as long as short diameter of eye; diameter of an ocellus slightly less than ocell-ocular or postocellar line, which are about equal; vertex, frons, and temples opaque coriaceous, with distinct separated punctures; eyes slightly divergent below, their inner margins a weak sigmoid curve with its concave part opposite the frons; face subpolished, sparsely and coarsely punctate, divided into three somewhat tumid areas by a longitudinal impression each side of middle; clypeus rather weakly separated from face, about twice as broad as long, broadly and straightly truncate at apex, polished, with a few coarse punctures in basal middle; mouth fully as broad as face, mandibles rather long and narrow; cheeks in front view strongly convergent, nearly straight; malar space as long as basal width of mandible; antennae about half as long as body, coiled, 37-jointed,

flagellum with short, thick joints, first joint barely a half longer than thick, joints in apical third flattened below and a little broadened. Thorax stout, slightly broader than deep, generally rather densely punctate, finely above and more coarsely so below, lower pleura more or less rugosely so; scutellum flat and virtually impunctate; propodeum without distinct costulae, areola about as long as broad and subquadrate, sometimes with the sides curved and the base and apex of equal width and sometimes straight with base broader than apex, median areas finely irregularly rugose, lateral areas coarsely transversely rugose, pleural areas irregularly rugose; legs stout, coriaceous, coxae coarsely punctate, femora almost impunctate, hind coxa without a scopa. Abdomen broad fusiform, finely coriaceous; postpetiole very broad, longitudinally striate, second tergite coarsely sparsely punctate, third and fourth less distinctly so and only at base, gastrocoeli distinct, transverse, striate, widely separated; ovipositor very slightly exserted, hypopygium retracted.

Head largely ferruginous in front, black behind, the red usually completely encircling the eyes but rarely interrupted in upper posterior orbits, frontal scrobes and a broad streak each side of middle of face black, inner orbits more or less distinctly yellowish; antennae black, scape below and flattened surface of flagellum reddish, a broad white annulus embracing most or all of flagellar joints 5–14; mandibles reddish; palpi dusky stramineous, the labial palpi sometimes piceous. Thorax black with mesoscutum except margins ferruginous and scutellum white; wings yellowish hyaline, veins black, stigma dark testaceous; legs black, apical trochanter joints and tarsi ferruginous, tibiae white annulate, front and middle tibiae otherwise ferruginous, hind tibiae ferruginous at base, black at apex. Abdomen ferruginous, petiole black, postpetiole laterally and a small spot on seventh tergite usually yellow.

Host.—Heterocampa guttivitta Walker.

Type locality.—North Heath, Mass.

Type.—U.S.N.M. No. 44066.

Remarks.—Described from the following four females: The type, reared July 7, 1931; one found in a rotten stump at Mahwah, N. J., March 24, 1925, by F. M. Schott; one from Put in Bay, Ohio, June 20–30, 1924; and one labeled simply "Ohio."

Only the holotype has complete antennae.

AMBLYTELES CTENUCHAE, new species

In Cresson's key to *Ichneumon*, females, Section IV, this species runs to *funestus* (Cresson), to which it is very closely related. It is easily distinguished from *funestus* by its longer and more slender antennae and legs. In *funestus* the flagellum is noticeably stouter

beyond the middle, while its first joint is only a little longer than thick and the legs are very stout, the hind femur being barely three times as long as deep. In *ctenuchae* the flagellum is not thickened beyond the middle, and its first joint is nearly twice as long as thick; the legs are only moderately stout, with the hind femur nearly or quite four times as long as deep.

Female.—Length 13 mm. In structure very similar to *heterocampae*, from the foregoing description of which it differs only as follows: Antennae more than half as long as body, 40-jointed, rather strongly tapering to apex, flagellar joints relatively longer, first joint nearly twice as long as thick, joints beyond middle not broadened and less distinctly flattened below; propodeum irregularly rugose all over, only a little more finely so medially; postpetiole finely coriaceous, the sculpture sometimes running into very fine striations but not distinctly, longitudinally striate; tergites 2–4 much less distinctly punctate.

In color also the species is very similar to *heterocampae*, but the head is reddish only on anterior orbits, clypeus, and mandibles, the last more piceous and the orbits not at all yellow; the scape below and the flattened surface of the flagellum are not distinctly reddish, and the antennal annulus is more reddish; the palpi are distinctly fuscous; the thorax, except the white scutellum, is entirely black; the tibiae are entirely ferruginous except that the hind tibia is black at apex; and the postpetiole and apical tergite are not yellow spotted.

Host.—Ctenucha virginica Charpentier.

Type locality.—Detroit, Me.

Type.—U.S.N.M. No. 44067.

Remarks.—Described from three females, all reared from the above host, two from type locality under Gipsy Moth Parasite Laboratory No. 10098M5, on July 13 and 21, 1926, and one with no other data than the host label.

Only the holotype has complete antennae.

Genus PROSCUS Holmgren

PROSCUS WALSHIAE (Ashmead), new combination

Phaeogenes walshiae Ashmead, Trans. Amer. Ent. Soc., vol. 23, p. 205, 1896, male and female. Type, U.S.N.M. No. 3306.

Phaeogenes (Centeterus) ineptifrons Gahan, Proc. U. S. Nat. Mus., vol. 55, p. 113, 1919. Type, U.S.N.M. No. 21614. (New synonymy.)

The distinct, though shallow, gastrocoeli exclude this species from *Centeterus*, and the broad temples, deeply concave occiput, slender form, and unarmed hind coxae of the female place it in *Proscus*.

Since the introduction of the oriental fruit worm, *Grapholitha molesta* (Busck), into the United States, this species has become one of the most important of the parasites of the pupa of that insect.

The types of *ineptifrons* were reared from that host. Those of *walshiae* were reared from *Walshia amorphella* Clemens.

PROSCUS WALSHIAE AUSTRALIS, new variety

Identical structurally with the typical form, but differs constantly in having the abdomen entirely ferruginous.

Host.—*Laspeyresia caryana* Fitch.

Type locality.—Albany, Ga.

Type.—U.S.N.M. No. 44720.

Remarks.—Five females (one holotype) and two males (one allotype) reared by Herbert Spencer, Luther Brown, and H. S. Adair, of the fruit-insect division of the U. S. Bureau of Entomology.

The specimens are said to have been reared from pupae of the host that had been isolated as larvae.

Genus HEMITELES Gravenhorst

HEMITELES PINIFOLIAE, new species

Allied by its short, stout first abdominal segment to *gracilariae* Ashmead and *bucculatricis* Ashmead. From the former it is easily distinguished by its broad temples and from the latter by its much more strongly sculptured and longer abdomen and by its shorter ovipositor.

Female.—Length 3.5 mm. Slender, the thorax fully twice as long as deep, its depth and breadth about equal, the abdomen nearly four times as long as broad. Head large, broader than thorax, in side view somewhat like that of *Exochus*, temples strongly rounded, nearly or quite reaching outside tangent of eyes; face opaque punctato-coriaceous, very strongly receding, with a median longitudinal ridge; eyes large, shallowly convex, about as long as width of face, parallel within; clypeus small, short, apically truncate for its entire width; mouth distinctly narrower than face, mandibles small; malar space about equal to basal width of mandible; antennae long, slender, slightly thickened toward apex, 19-jointed. Thorax granularly opaque, only the scutellum and speculum polished and the pronotum laterally subpolished; notauli briefly impressed; posterior face of propodeum much shorter than horizontal face, transverse carinae, especially the basal carina, weak, median carinae absent; stigma rather broad, radius just beyond middle, radial cell short, hardly as long on metacarpus as stigma; areolet rather small, pentagonal, open, cubitus lacking beyond position of second intercubitus; basal vein very strongly curved, so that it meets the median vein at a slightly acute angle; nervellus distinctly broken well below middle. Abdomen largely granularly opaque, only the apical tergites and the apices of the other tergites polished, the apices of second and third slightly tumid; first segment hardly as long as second, nearly as

broad as long, petiole broad and flattened above, spiracles a little beyond middle; tergites 6 and 7 unusually long, tergite 8 nearly concealed; ovipositor sheath barely longer than second tergite, ovipositor more than twice as long as its sheath.

Black; clypeus and mandibles piceo-testaceous; antennae brown, testaceous below toward base; legs reddish testaceous, hind coxae more or less piceous, hind tibia and tarsus darker above; wings hyaline, stigma and veins brown, tegula and radix stramineous.

Male.—Much like female, but all coxae definitely piceous to black, antennae black with scape piceous and pedicel testaceous below; tergites less broadly and less definitely polished at apex.

Type locality.—Lunenburg, Mass.

Type.—U.S.N.M. No. 44068.

Remarks.—Three females and one male reared under Gipsy Moth Parasite Laboratory No. 12458P1 from pine needles infested by *Paralechia pinifoliella* Chambers, but whether as primary or secondary parasites is not known. The specimens emerged on June 27 and 28, 1928, and June 12, 1929.

Genus TRICHOCRYPTUS Thomson

TRICHOCRYPTUS ATLANTICUS Cushman

Three specimens of the undescribed male of this species have been received from C. W. Johnson along with three females, all from Nantucket Island, Mass. It differs from the female strikingly in the color of the abdomen, which is black with tergites 1–5 more or less dark ferruginous, the first at apex, the others apically and laterally, and the second sometimes so at base. The vertex is arched distinctly above the level of the top of the eyes, the malar space is slightly shorter than basal width of mandible, the antennae are 25-jointed (20- to 21-jointed in female), the first joint of flagellum is fully as long as second, the scutellum white only at apex, the pubescence of head and thorax is darker colored and less dense than in the female, the wings distinctly brownish infumate, the first abdominal segment narrower with the dorsal carinae extending to the tip and with a more or less distinct median depression just beyond the spiracles, the hind femur black at apex, the hind tibia infuscate above and the tarsus practically black.

In one of the females the scutellum is black. Another female from Massachusetts (Baker collection) differs from the type practically only in being larger with the abdomen relatively a little stouter.

Genus NEOSTRICKLANDIA Viereck

Neostricklandia Viereck, Can. Ent., vol. 57, p. 75, fig., 1925. (Genotype, *Neostricklandia sericata* Viereck.)

Trichestema Cushman, Proc. U. S. Nat. Mus., vol. 72, art. 13, p. 9, fig. 1, 1927. (Genotype, *Trichestema helcostizoides* Cushman.) (New synonymy).

In describing my *Trichestema* I overlooked Viereck's earlier genus. There can be no doubt of the synonymy.

NEOSTRICKLANDIA HELCOSTIZOIDES (Cushman), new combination

Trichestema helcostizoides CUSHMAN, Proc. U. S. Nat. Mus., vol. 72, art. 13, p. 9, fig. 1, 1927.

Very similar to *sericata* Viereck, but the type differs from the description of *sericata* as follows: Malar space almost exactly as long as basal width of mandible (not shorter as stated in original description of *Trichestema*); posterior ocelli at same level as top of eyes; stigma dark only along anterior margin, otherwise testaceous; middle femur entirely ferruginous, hind femur the same except at apex, where it is slightly infuscate; middle tibia at base black, hind tibia entirely reddish fuscous, darker at base; median carinae distinct to apical carina, defining a combined areola and basal area, which broadens abruptly at the costulae; ovipositor beyond apex of abdomen less than half as long as abdomen (sheath very slightly more than half as long).

My figure is erroneous in that it shows the middle abscissa of the basal carina of propodeum and the basal abscissae of the lateral carinae. These abscissae are absent.

Since the publication of my description I have received for identification from C. W. Johnson two females and five specimens of the hitherto undescribed male, all taken by him on Nantucket Island, Mass. Both females differ from the type in having the second and third tergites distinctly ferruginous, the hind femur entirely and the tibia except at base and apex ferruginous, and the antennae 23- and 24-jointed. I have been unable to discover any more significant difference.

In the male the cheeks are less strongly rounded, the malar space is a little shorter than basal width of mandible, the antennae are longer and more slender and 23- to 25-jointed, with the first joint of flagellum distinctly longer than second, the white of the scutellum is much reduced or lacking, the propodeal spiracle shorter, the abdomen more polished, the pubescence less conspicuous and on wings less dense, the abdomen black with only faint reddish reflections on second and third tergites, the middle and hind femora definitely black at apex, the hind coxa black above at apex, the middle and hind tibiae deep fuscous or black above, more reddish below, and the legs more slender with apical joint of hind tarsus only as long as third joint.

ALOPHOSTERNUM, new genus

An anomalous genus that belongs to the tribe Ichneumonini as defined by Cushman and Rohwer, though disagreeing in several respects with the description of the tribe.

Head in front view roundly triangular, the malar space long and the cheeks straight; vertex posteriorly and occiput impressed medially, the occipital carina obliterated in the impression; third joint of labial palpi very short and difficult to distinguish; clypeus very short, broadly arcuately inflexed and emarginate at apex; notauli and prepectal carina absent; propodeum medially channeled nearly to apex, without carinae; subdiscoideus at or above middle of discoideus; radiella terminating abruptly about the length of abscissula beyond intercubitella, the other longitudinal veins in hind wing virtually obliterated beyond transverse veins, nervellus very weakly broken below middle; first tergite strongly narrowed before spiracles, virtually without basal angles; ovipositor subcylindrical at base, slightly compressed and subsagittate at apex. Otherwise like *Epiurus* Foerster, to which it will run in Ashmead's key.

Genotype.—Alophosternum foliicola, new species.

ALOPHOSTERNUM FOLIICOLA, new species

Female.—Length 5 mm; antennae 3.5 mm; ovipositor sheath 1.5 mm. Head polished, impunctate; temples convexly receding; diameter of lateral ocellus equal to postocellar line and distinctly shorter than ocellocular line, a distinct longitudinal groove between the ocelli; eyes parallel within, not at all emarginate opposite antennae; face broader than long; malar space nearly as long as basal width of mandible; antennae slender, 23-jointed. Thorax distinctly less than twice as long as deep, slightly deeper than broad, polished and virtually impunctate except on lower pleura and sternum where it is sparsely punctate; propodeum impunctate; legs slender, hind tarsus equal in length to tibia, its apical joint nearly as long as second. Abdomen elongate fusiform, rather densely punctate and basally more or less shagreened, the first tergite especially shagreened and almost impunctate except at apex; first tergite a little longer than broad, others very strongly transverse, the second slightly more and the third slightly less than half as long as broad at their junction; ovipositor sheath hardly twice as long as first tergite.

Black, with mesopleurum, metapleurum, and propodeum usually more or less piceous or ferruginous; inner orbits, broadest on frons, mandibles, underside of scape, pedicel and basal joint of flagellum, humeral angle of pronotum, tegulae, and wing bases whitish; clypeus reddish; wings hyaline, veins brown, stigma lighter and grayish; front and middle legs testaceous, coxae darker, tarsi apically and in middle tarsus apices of all joints dark, middle tibia with obscure annulation of brownish and white; hind coxa and femur reddish testaceous, trochanter stramineous, tibia largely white with apical and subbasal annuli of black, pale testaceous below; hind tarsus white, all joints tipped with black; abdomen black, tergites 2–5 more

or less distinctly pale margined apically, venter white with blackish sternites.

Male.—Differs from female as follows: Ocelli larger and hardly their diameter from the eyes, though not larger in diameter than postocellar line; face very slightly narrower than frons; antennae 19-jointed; abdomen narrower, less distinctly punctate; first tergite much longer than broad, the sides beyond spiracles nearly parallel, second and third much more than half as long as broad at their junction.

Face, frons nearly to ocelli, malar space, lower cheeks, clypeus, and mandibles pale yellow; upper and lower margins of pronotum, propleura, and subalar tubercles also yellow; pleura, sternum, and propodeum entirely black; front and middle legs pale yellow, their tibiae and tarsi more reddish with apices darker; hind coxa and trochanter pale yellowish, the coxa with a piceous spot at base above; hind tarsus black except at base; tergites 2–4 with apical margins definitely white, those beyond very narrowly so.

Hosts.—Phyllotoma nemorata (Fallen) and *Paraclemensia acerifoliella* Fitch.

Type locality.—Ashburnham, Mass.

Type.—U.S.N.M. No. 44069.

Remarks.—Described from six females, all reared under Gipsy Moth Laboratory No. 12464 as parasites of *Phyllotoma nemorata* larvae, five from the type locality on May 25 and June 26, 1930, and one from Gorham, N. H., June 3, 1930; five females and one male received from A. E. Brower, Mount Desert, Me., who reared the females from *Phyllotoma* in June, 1930, and May, 1931, from material collected at Topsfield, West Bethel, Nicatous Pond, and Bryant Pond, Me.; and the male from *Paraclemensia* on Little Duck Island, Me., on August 6, 1931.

According to C. F. W. Muesebeck, who submitted the Gipsy Moth Laboratory specimens, this is an external parasite and is evidently a native species that has adopted the introduced sawfly as a host.

Genus GLYPTA Gravenhorst

GLYPTA CAULICOLA, new name

Glypta rufiscutellaris Walsh, Trans. St. Louis Acad. Sci., p. 126, 1873 (not Cresson, 1870).

Glypta animosa (Cresson) Riley and Howard, Ins. Life, vol. 3, p. 463, 1891.

Walsh's description is of a different species from the one described under this name by Cresson. Walsh may have had the two species confused in his material and may even have sent to Cresson specimens conspecific with Cresson's type. In Cresson's species, judged from large series reared from *Grapholitha molesta* (Busck), the mesosternum is always black and the red color confined at most to a band on the pleurum extending forward somewhat obliquely from

the middle coxae. On the other hand, Walsh's species is described as having the mesosternum and more or less of the mesopleurum red. The description is based primarily on the female. The first female mentioned, therefore, would be the logical choice for lectotype were the specimens in existence. Unfortunately they were destroyed in the Chicago fire in 1871. The first female mentioned is the one reared from the gall of (*Euryptychia saligneana* Clemens)=*Epiblema scudderiana* Clemens on goldenrod. In the National Museum is a female, reared March 16, 1887, from this host, which agrees almost perfectly with Walsh's description. It is recorded as *Glypta animosa* Cresson in Insect Life as cited above. This specimen I hereby designate the neotype of *Glypta rufiscutellaris* Walsh (not Cresson) and rename the species as above.

Otherwise the neotype differs from *rufiscutellaris* Cresson by having the cheeks more strongly rounded, the flagellum stouter with second joint distinctly less than twice as long as thick, the ovipositor a little shorter, hardly as long as abdomen, and the upper lateral margin of pronotum white throughout.

Other specimens that I place under this species were reared by Frank D. DeGant at Cleveland, Ohio, from the gall of *Gnorimoschema gallaesolidaginis* Riley and, apparently by Riley at St. Louis, from "stem of wild hemp."

The extent of red on the thorax in both *rufiscutellaris* Cresson and *caulicola* varies greatly, specimens occurring in both species in which the mesoscutum, mesopleura, mesosternum, metapleurum, metasternum, and sometimes even the scutellum are entirely black. In *caulicola* the red first appears on the mesosternum and metasternum and on the lateral lobes of the mesoscutum, while in *rufiscutellaris* it appears first just in front of the coxae on the pleura and in the notauli on the mesoscutum.

Genus LATHROLESTES (Foerster) Davis

LATHROLESTES METALLI, new species

Female.—Length 6.5 mm; antennae 6.5 mm. Head strongly transverse, subopaque granulate; temples not reaching nearly to outside tangent of eyes, strongly convex; occipital carina broadly interrupted medially; diameter of an ocellus a little shorter than postocellar line and little more than half ocell-ocular line; eyes slightly convergent below; clypeus broad, in profile with apex prominent, with a fringe of long hairs, foveae large; malar space much less than half basal width of mandible, the latter with lower tooth much larger and longer than upper; antennae very slender, filiform, 37-jointed. Thorax dorsally granularly opaque, laterally and ventrally subpolished; notauli distinct anteriorly, scutellum compressed, subpolished; propodeum with only the petiolar area defined, all other carinae wanting, spiracles well above plural carina; areolet rather

large, oblique; discocubitus very strongly curved; nervulus slightly postfurcal; nervellus broken below middle; legs slender; longer hind calcarium distinctly less than half as long as basitarsus. Abdomen subopaque granular; first segment a little more than twice as long as broad at apex, medially longitudinally impressed, spiracles distinctly before middle; ovipositor sheath slender, about as long as second tergite but not extending beyond apex of abdomen.

Black; frontal orbits, broadening opposite ocelli, yellow; temples pale reddish, black of occiput reaching eyes above; malar space and clypeus yellowish; mandibles and other mouth parts whitish; face brown; scape, pedicel, and basal joints of flagellum yellowish, flagellum brown, paler below. Anterior lateral margin of pronotum narrowly pale reddish, its humeral angle white; meso-metapleural suture reddish; scutellum piceous apically; wings hyaline, stigma and veins brown, costa stramineous, radix and tegulae white; legs ferruginous, front and middle coxae and trochanters and hind trochanters stramineous, hind tarsi paler than tibiae. Abdomen ferruginous, first segment entirely black, second tergite and apex more or less stained with blackish, plica yellow.

Male.—Head largely yellow, the black being confined to stemmaticum, upper median part of frons, vertex medially and along occipital carina, and upper part of occiput; upper posterior orbits pale testaceous. Entire prothorax, broad lateral margins of mesoscutum, mesopleurum except above, mesosternum, and all coxae and trochanters pale yellow; scutellum and postscutellum ferruginous; spot on metapleurum yellowish testaceous. First tergite at apex and apical tergite ferruginous. Genital sheath slender, nearly as long as second tergite, pale testaceous. Otherwise much like female.

Host.—Metallus rubi Forbes.

Type locality.—Beamsville, Ontario, Canada.

Type.—U.S.N.M. No. 44070.

Paratypes.—Canadian National Collection, Ottawa, Ontario.

Remarks.—Two of each sex, the females from the type locality and the males from Vineland, Ontario, reared by W. L. Putnam, May 30 to June 7, 1929.

Both female and male paratypes are smaller and have the abdomen more extensively black, the second tergite especially being almost entirely black.

LATHROLESTES PICTUS, new species

Female.—Length, 3 mm; antennae 3 mm. Head for the most part minutely shagreened, from above transverse, temples strongly convex, not reaching outside tangent of eye; occipital carina broadly interrupted medially; postocellar and ocellocular lines equal and much longer than diameter of an ocellus; a small, but deep, longitudinal pit between ocelli; eyes subparallel within; clypeus deeply separated from face, broad with apex broadly truncate and fringed

with long setae, in profile with apex prominent; malar space distinctly less than half as long as basal width of mandible; lower tooth of mandible much larger and longer than upper tooth; antennae 26-jointed, filiform. Thorax finely shagreened, scutellum and speculum polished; propodeum with petiolar area rugulose and incompletely defined medially, apical lateral areas also rugulose and obscurely defined, other carinae absent; areolet small, nearly triangular, nervulus interstitial, nervellus weakly broken below middle; hind tibia and tarsus nearly equal in length, calcaria less than half as long as basitarsus. Abdomen finely shagreened, short and broad; first tergite little longer than broad at apex, its sides straight and strongly convergent basally, petiole strongly depressed, without dorsal carinae, spiracles slightly before middle; second tergite only a little more than half as long as broad at base, others relatively even shorter; ovipositor sheath nearly as long as first tergite.

Black; face, complete orbits, clypeus, and mandibles yellow; scape and pedicel largely yellow, flagellum brown above, ferruginous below, yellowish toward base. Upper and lower margins of pronotum, propleura, lines in positions of notauli, broad lateral margins of mesoscutum, subalar tubercles, and margin of prepectus yellow; a longitudinal mark on lower mesopleurum brownish (this is sometimes yellow and confluent with the prepectal margin); wings hyaline, veins and stigma brown, base and apex of stigma, costa, and tegulae yellowish; legs yellowish testaceous, tibiae and tarsi stramineous, hind coxae black at extreme base above. Narrow lateral margins of tergites beyond second (and sometimes very narrow apical margins) pale, plica yellow, hypopygium brownish ferruginous with narrow yellow margin.

Male.—Abdomen much more slender, the first tergite nearly twice as long as broad at apex, second three-fourths as long as broad at base; apical tergite entirely concealed by seventh; genital sheath very narrow, as long as second tergite.

Yellow much more extensive than in female; pronotum almost entirely and lower pleura yellow; scutellum brownish; tergite 3 usually more or less yellow at base; tergite 8 entirely yellow; genital sheath brownish testaceous.

Type locality.—Brookings, S. Dak.

Type.—U.S.N.M. No. 44071.

Remarks.—Described from six females and ten males, all from the type locality. A paratype of each sex is returned to the South Dakota State Agricultural College at Brookings, S. Dak.

LATHROLESTES MNEMONICAE (Rohwer), new combination

Sympherta mnemonicae ROHWER, Proc. Ent. Soc. Washington, vol. 16, p. 141, 1914.

The complete triangular areola and the strongly defined apical lateral area and lateral carinae constitute the only important differ-

ences between this species and the typical *Lathrolestes*. Otherwise its similarity of form and structure, especially that of the head, leaves no doubt of its very close relationship, and I do not believe the propodeal difference is sufficient to be considered of generic value.

LATHROLESTES RUFIGASTER, new species

As in *mnemonicae* (Rohwer) the propodeum is almost completely areolated, though otherwise this species is structurally nearly typical of the genus.

Female.—Length 4.5 mm; antennae 4.5 mm. Head very finely shagreened, transverse; temples strongly convex but not reaching outside tangent of eyes, polished; occipital carina very broadly interrupted medially; ocell-ocular line much longer than postocellar line and more than twice as long as diameter of an ocellus; clypeus broadly truncate and medially impressed at apex and fringed with long hairs; malar space very short; mandibles long, with lower tooth much larger and longer than upper tooth; antennae filiform, very densely pilose, 33-jointed. Thorax minutely shagreened and subpolished, less distinctly sculptured laterally, the pronotum laterally polished; notauli weakly impressed anteriorly; propodeum with all carinae except basal distinct, areola longer than broad, rounded anteriorly, the sides parallel posteriorly; areolet oblique rectangular. Abdomen faintly shagreened, subpolished; first tergite nearly twice as long as broad at apex, dorsal carinae distinct basally, spiracles before middle; ovipositor short, the sheath protruding only slightly beyond hypopygium.

Black, with abdomen except petiole and legs except tarsi ferruginous; mandibles and palpi pale ferruginous; antennae fuscous, more reddish below, especially at base; wings hyaline, venation brown, tegulae and radices whitish; tarsi fuscous.

Male.—Essentially like female.

Host.—*Metallus bethunei* MacGillivray.

Type locality.—Grimsby, Ontario, Canada.

Type.—U.S.N.M. No. 44073.

Remarks.—One of each sex reared September, 1920, by L. Caesar.

Genus MESOLEIUS Holmgren

MESOLEIUS PHYLLOTOMAE, new species

In Schmiedeknecht's "Opuscula Ichneumonologica" key to the European species of *Mesoleius*, this species runs best to *melanoleucus* Gravenhorst. From that species, however, it is at once distinguishable by its smaller size, slender abdomen, and polished, almost unsculptured, integument. In the generic key it might almost, because of the slender abdomen, be run to the genus *Saotis*, but the abdomen is not compressed.

Female.—Length 6 mm. Head polished, but faintly alutaceous, face and frons subopaquely so; temples reaching outside line of eyes,

their length (front to back) nearly as great as that of eye; diameter of lateral ocellus nearly as long as postocellar line but only a little more than half as long as ocellocular line; malar space about half as long as basal width of mandible; cheeks in front view straight and long; clypeus medially swollen, apically broadly emarginate; mandibles broad, upper tooth larger but not longer than lower tooth; antennae nearly as long as body, 30-jointed, slender, first joint of flagellum fully four times as long as thick at apex. Thorax rather slender, hardly two-thirds as deep as long, polished, minutely sparsely punctate on mesoscutum and lower mesopleurum, mesosternum more distinctly and more densely so; epomia apparently entirely absent; notauli very weakly indicated anteriorly; scutellum very strongly convex, not at all margined laterally; propodeum weakly roughened, subopaque, areola flattened but only weakly outlined, apical carina distinct laterally but obsolete medially; legs slender, hind tibia and tarsus of equal length, inner calcarium half as long as basitarsus; radial cell barely as long on metatarsus as stigma; areolet incomplete; nervulus postfurcal; postnervulus broken in middle; nervellus broken at lower third, inclivous. Abdomen about a third longer than head and thorax, nearly parallel-sided for most of its length; first segment distinctly longer than broad at apex, its sides diverging very gradually, medially impressed, the impression flanked by weak carinae; tergites 2 and 3 each about as long as broad at their junction, tergite 4 distinctly shorter; tergites 1 and 2 and base of 3 weakly alutaceous, abdomen otherwise polished; sheath short and nearly oval.

Black; clypeus, humeral angles of pronotum, and scutellum ferruginous, mandibles and tegulae whitish; wings hyaline, venation brown, stigma paler; legs ferruginous, trochanters, tarsi, and hind tibia whitish, apical joints of all tarsi, apices of all joints of hind tarsus, and apex of hind tibia blackish.

Male.—Essentially like female but malar space shorter, medial swelling and apical angles of clypeus less prominent, abdomen a little shorter, face and clypeus white, front coxae whitish, hind tibia with an obscure subbasal dark annulus.

Host.—*Phyllotoma nemorata* Fallen.

Type locality.—Austria.

Type.—U.S.N.M. No. 44072.

Remarks.—Described from one female and four males reared in August, 1931, under Gipsy Moth Parasite Laboratory No. 13626, from cocoons of the host collected in Austria.

Genus ADELOGNATHUS Holmgren

ADELOGNATHUS DEGANTI, new species

In Schmiedeknecht's key to European species, this species runs to *dorsalis* (Gravenhorst), with which it is obviously closely related.

From that species, however, it differs in its darker clypeus and face, apparently more distinctly areolated and less strongly sculptured propodeum, and entirely impunctate second tergite.

Female.—Length 3.5 mm; antennae 3 mm. Head largely polished, sparsely hairy, in dorsal view about twice as broad as thick with temples strongly convex; ocell-ocular line a little longer than postocellar line, interocellar line and diameter of ocellus equal and distinctly shorter than postocellar line; face slightly narrower than frons, nearly twice as broad as long, finely granularly opaque, medially elevated; clypeus somewhat less distinctly sculptured than face, more than half as long as broad, apically truncate for nearly the entire breadth; malar space half basal width of mandible; antennae 14-jointed, flagellum rather abruptly thickened at sixth joint; basal joint long and slender. Thorax almost entirely polished and impunctate, only the lower anterior margin of pronotum and upper anterior portion of mesopleurum obscurely punctate; pronotal scrobe weakly foveolate; notauli impressed anteriorly; propodeum with a very large, well-defined petiolar area and weakly outlined apical lateral and combined areola and basal areas, petiolar area transversely rugulose, lateral areas obscurely punctate; alar areolet open; abdomen petiolate, first tergite granularly roughened, with nearly parallel median carinae and a median groove, postpetiole about twice as broad as petiole, spiracles at about apical third; other tergites polished, unsculptured, second twice as broad at apex as at base, with minute gastrocoeli distant from base; ovipositor not exserted.

Black; clypeus brownish, mandibles yellow, palpi white; antennae fuscous with scape and pedicel yellow in front and thickened part of flagellum reddish; legs testaceous, front ones paler, all trochanters whitish, hind tibia and tarsus fuscous; wings hyaline, venation dark; abdomen black with a median yellow herring-bone mark from near base of second tergite to apex and broadening out at the apices of the tergites.

Type locality.—Puritas Spring, Ohio.

Type.—U.S.N.M. No. 44074.

Remarks.—One specimen taken June 8, 1930, by Frank D. DeGant, for whom the species is named.

Genus BENJAMINIA Viereck

Benjaminia Viereck, Proc. U. S. Nat. Mus., vol. 42, p. 633, 1912. (Genotype, *Charops fuscipennis* Provancher.)

Zachrestoides Viereck, Can. Ent., vol. 57, p. 177, 1925; vol. 58, p. 2, 1926. (Genotype, *Zachrestoides euphydryadis* Viereck.) (New synonymy.)

The two characters by which Viereck distinguished *Zachrestoides* from *Benjaminia*, the length of the postocellar line and the comparison of the distance between the first tergal spiracles and their distance from the apex of the tergite, are far too trivial for distinguishing genera; the latter is variable even within a species.

Both *fuscipennis* and *euphydryadis* are parasitic on species of the lepidopterous genus *Euphydryas*.

The second species of *Zachrestoides*, *intermedia* Viereck, is unknown to me, but from its possession of the complete areolet I doubt if it is really congeneric with the other two species.

BENJAMINIA FUSCIPENNIS (Provancher)

Type.—U.S.N.M. No. 1967.

Several specimens besides the type are in the National Museum. All but one from Reno, Nev., are from California, and all but the Nevada specimen were reared from the type host, *Euphydryas chalcedon* Doubleday and Hewitson.

The wings in the male are nearly hyaline.

The bright ferruginous legs, and, in the female, the dark wings distinguish the species from *euphydryadis*.

BENJAMINIA EUPHYDRYADIS (Viereck), new combination

Zachrestoides euphydryadis VIERECK, Can. Ent., vol. 58, p. 3, 1926.

One female and three males, reared at the Gipsy Moth Parasite Laboratory, Melrose Highlands, Mass., under Nos. 12410H2, N2 and 51 and 12411E2, from various localities in eastern Massachusetts, are before me. The host in each case was *Euphydryas phaëton* (Drury), the same as Viereck's type.

These specimens differ consistently from the original description in their darker palpi and legs and reddish abdominal venter, probably being more fully matured than the type.

The species is at once distinguishable from *fuscipennis* by its hyaline wings and darker legs.

Genus TRANOSEMA (Foerster) Thomson

TRANOSEMA PEDELLA (Holmgren)

A series of what appears to be this species has been received from the Gipsy Moth Parasite Laboratory. They were reared as parasites of the birch leaf-mining sawfly, *Phyllotoma nemorata* (Fallen), from material imported from Austria in connection with the introduction of parasites of that species into a severe infestation in northern New England.

None of the specimens is typical *pedella*, but several agree very closely with Holmgren's var. 1 in having the front and middle coxae entirely pale and only the hind pair black. Some specimens, however, have the hind coxae virtually entirely ferruginous. Between these two extremes stand other specimens with the coxae partly blackish. The hind tibia varies from pale ferruginous with only the apex blackish above to ferruginous only below with the upper surface yellowish in the middle and blackish at both base and apex. The stigma varies from dark to light fuscous.

Liberated at North Conway, N. H., in 1931.

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